



U.S. OFFICE OF SPECIAL COUNSEL

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The Special Counsel

September 22, 2005

The President
The White House
Washington, DC 20500

Re: OSC File No. DI-04-2524

Dear Mr. President:

The Columbia Accident Investigation Board (CAIB) found that the Space Shuttle Columbia accident was caused by a breach in the Thermal Protection System (TPS) that occurred during launch and went undetected throughout the course of the flight. Columbia Accident Investigation Board, *Columbia Accident Investigation Board Report* vol. 1 at 49 (August 26, 2003). To avoid such accidents in the future, the CAIB recommended that the National Aeronautics and Space Administration (NASA) develop a “capability to obtain and downlink high-resolution images of the underside of the Orbiter wing leading edge and forward section of both wings’ [TPS].” *Id.* at 226. This recommendation was made in light of the possibility that another Space Shuttle mission might result in similar breaches in the TPS. I received a disclosure from a whistleblower, however, alleging that contrary to the recommendation of CAIB, NASA management opted to rely on existing, low-resolution imaging technology to inspect the TPS of the Space Shuttle Discovery during its Return to Flight Mission and suppressed the implementation of a technically feasible, superior imaging system.

More specifically, the whistleblower, who requested anonymity, alleged that an Advanced Technology TPS Inspection Working Group (ATTIWG) at Johnson Space Center determined that the existing Orbiter Boom Sensor System, promoted by the Johnson Space Center Engineering Directorate, was inadequate to detect potentially catastrophic defects in the TPS and that it was technically feasible to engineer a more adequate system. The whistleblower further alleged that management in the Engineering Directorate discounted the recommendations of ATTIWG and decided not to develop an improved sensor system. According to the whistleblower, who made his disclosure prior to the launch of the Space Shuttle Discovery, NASA planned to rely on inadequate, low-resolution cameras to detect dangerous breaches in the TPS, thereby exposing the Space Shuttle to the same dangers that lead to the Space Shuttle Columbia accident.

I required the Administrator of NASA to conduct an investigation into the whistleblower’s disclosure pursuant to 5 U.S.C. § 1213(c) and (d). NASA submitted a report to this office on June 9, 2005. We informed the agency that its report was incomplete and did not satisfy the requirements of § 1213(d), and the agency agreed to prepare a supplemental report, which it submitted on July 6, 2005. OSC forwarded the agency’s initial and supplemental reports to the whistleblower for comment. The whistleblower’s comments, submitted on July 18,

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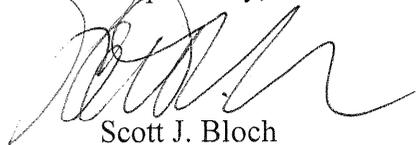
2005, called into question several of the representations made by the agency. Given the critical nature of the disagreement between the whistleblower and the agency, OSC contacted the agency's principle investigator to solicit a response to the whistleblowers comments. Because the launch of the Space Shuttle Discovery was imminent, I also wrote to Administrator Griffin on July 21, 2005, to alert him to the disagreement. On July 25, 2005, one day prior to the launch of the Space Shuttle Discovery, Administrator Griffin submitted to OSC a second supplemental report, responding to the whistleblower's comments, and OSC subsequently forwarded this report to the whistleblower for further comment.

In its three reports, the agency maintained that the imaging systems upon which it planned to rely were superior to the high-resolution imaging system recommended by ATTIWG because they could measure the depth of suspected damage to the TPS. The agency further asserted that testing had demonstrated the ability of its TPS inspection systems to detect the smallest potentially critical defects in the TPS. While the agency acknowledged several limitations in its TPS inspection systems, it insisted that flight planners had developed protocols for using these systems that would avoid their shortcomings and maximize their efficacy. The whistleblower, however, disputed the agency's findings and provided technical documentation to support his critique of NASA's TPS inspection systems. During the Return to Flight Mission, it became apparent that visual inspection and cameras were critical to the mission's success. In supplemental comments, submitted after the completion of this mission, the whistleblower contended the "poor resolution, low dynamic range" images collected during the mission "demonstrate[d]" that NASA's TPS inspection systems are "inadequate to reliably detect critical damage." As required by law, 5 U.S.C. § 1213(e)(3), I am now transmitting the agency's reports along with the whistleblowers' comments to you.

Having reviewed the agency's submission and the whistleblower's comments, I have determined that the agency's reports, taken together, contain all of the information required by statute. As discussed in the enclosed Analysis of Disclosure, I have also concluded that, despite the compelling critique presented by the whistleblower, the agency's findings appear to be reasonable. Nevertheless, further inquiry may be required to determine why NASA did not utilize the high-resolution imagery that was recommended and that it now deems necessary for future missions in space.

As required by law, 5 U.S.C. § 1213(e)(3), I have sent copies of the agency's reports and the whistleblower's comments to the Chairmen of the Senate Committee on Commerce, Science, and Transportation and the House Committee on Science. We have also filed copies of the agency's reports and the whistleblower's comments in our public file and closed the matter.

Respectfully,



Scott J. Bloch

Enclosures